WASTE MANAGEMENT

August 23 , 2002

Cretified Mail
7002-0860-0007-9111-7810

Ms. Grisell V. Diaz-Cotto
New Jersey Remediation Branch
U.S. Environmental Protection Agency
290 Broadway ,19th Floor
New York, NY 1007-1860

Re: Scope Reduction at the Biota Monitoring
Kin-Buc Landfill
Operable Unit 2, 2002

Dear: Ms. Diaz-Cotto

Attached please find the our reply to your request on the scope reduction for the 2002 Biota Monitoring at Kin-Buc Landfill. The reply was developed by the Spring City office of Normandeau Associates on behalf of the respondents. Mr.George M Christian is the project manager for this work task.

Please call me if you have any question at (732) 985-4757.

Sincerely
Representing SCA Services Inc., and Kin-Buc Inc.

Carl Januszkiewicz
Facility Coordinator

Cc Carole Petersen-USEPA
Ian R. Curtis - NJDEP
Peter Kelly-Winston and Strawn
Steve Joyce-WMI
Kris Hallinger-BB&L

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Spring City, PA 19475-1124
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Mr. Carl Januszkiewicz
Kin-Buc Inc.
383 Meadow Road
Edison, New Jersey 08817

SUBJECT: Biota Monitoring at Edmonds Creek during 2002

Dear Carl:

I have reviewed US EPA's letter to Mr. Joyce, dated 7 August 2002, regarding the scope reductions we proposed during our meeting at Kin-Buc on 12 December 2001 and in the Biota Monitoring Plan we submitted to US EPA. Item 2 of the letter requests a rationale for reducing the number of mummichog tissue sample zones at the reference creek from eight to two. If this scope reduction is approved the targeted number of samples collected from the reference creek would be reduced from sixteen to four.

Appendix B in the original Biota Monitoring Plan (1995) now included in the Revised Operations and Maintenance Manual (1996) is entitled "Calculation of Required Sample Size for Mumichog Sampling". There a t-test was used to calculate a sample size (n) of eight zones in both Edmonds Creek and the reference creek. Two samples were collected from each zone to facilitate sixteen tissue analyses for mummichogs from each creek per year. Prior to the 1995 (year 1) sample effort, hypothesis testing was removed from the data analyses (see letter dated 21 September 1995, enclosed) describing unilateral modifications to Biota Monitoring Plan). Therefore, from a statistical perspective, adherence to an n of eight zones per creek was no longer applicable. However, sixteen samples from each creek were considered appropriate to meet the study objectives at that time (a representative sample) and that was the number targeted for the first five years of study.

To date, a total of fifty-six mummichog samples have been analyzed from the reference creek. Results have fallen within a fairly narrow range of 0.098 and 2.462 ppm that was consistently lower than the results obtained from Edmonds Creek. The mean of the fifty-six values is 0.623 ppm with a standard deviation of 0.554 ppm, a standard error of the mean of 0.069 ppm, and a coefficient of variation of 0.89. All but four of the data were near or below 1 ppm. Therefore, we believe that the number of samples analyzed to date are sufficient to characterize the reference condition and that continued monitoring using eight sample zones would be redundant. The data collected from 1995 to 1999 in combination with subsequent data from two zones should be sufficient to provide a spatial control for additional comparisons between Edmonds Creek and the reference creek.

Note that in the Monitoring Plan we submitted for future study (e.g., 2002), we proposed discontinuing all tissue sampling in the reference creek and to continue sediment sampling there at one of the two original zones according to the same rationale. Also, because results from the sediment and fiddler crab tissue analyses were consistently lower in Edmonds Creek at Remediated Zones 1 and 2 than in the other zones, we proposed to collect sediment and tissue (both fish and crabs) samples there during alternate years starting in 2002. In lieu of these

collections we would sample sediment from the Raritan River at the mouth of Edmonds Creek (four samples) and collect sediment and fiddler crab samples from Edmonds Creek Marsh from three locations distant from the stream channel to serve as a second spatial control. Amendments to the scope of monitoring are applicable to the 2002 sample effort (see item 3). Approval for the reductions in the number of zones are pending US EPA review (see last paragraph of the letter dated 7 August 2002).

Pursuant to the EPA interim approval of elimination of the fish community survey, the benthic macroinvertebrate survey, and the macoma clam bioaccumulation study we can schedule the 2002 sample collections for August-September this year.

Sincerely,

George M. Christian
(Project Biologist)

cc file
enc.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY - REGION II
290 BROADWAY
NEW YORK, NEW YORK 10007-1866

SEP 22 1995

SEP 21 1995

EXPRESS MAIL - RETURN RECEIPT REQUESTED

Mr. Wayne Thurman
Facility Coordinator
Waste Management, Inc.
Three Greenwood Square, 3329 Street Road
Bensalem, Pennsylvania 19020

Re: Kin-Buc Landfill Superfund Site (Site)
Edison, New Jersey
Administrative Orders No. II-CERCLA-93-0101 (Order)

Dear Mr. Thurman:

The United States Environmental Protection Agency (EPA) has reviewed the June 1995 revised Biota Monitoring Plan (BMP) prepared by EMCON. In accordance with Section VIII of the above-referenced Order, EPA approves this document with the enclosed unilateral modifications. It should be noted that these modifications represent changes to the document which the Agency believes is necessary to adequately perform biota monitoring at the Site.

Please also note that my staff and the Biological Technical Assistance Group are available to explain these modifications. Should you have any questions regarding the enclosed BMP modifications, please contact James Haklar, P.E., of my staff, at (212) 637-4414.

Sincerely yours,

Raymond Basso

Raymond Basso, Chief
New Jersey Superfund Branch II
Emergency & Remedial Response Division

Enclosure

cc: Ian Curtis, NJDEP
Robert Morano, Kin-Buc, Inc.

UNILATERAL MODIFICATIONS TO JUNE 1995
BIOTA MONITORING PLAN
KIN-BUC LANDFILL SUPERFUND SITE

I. GLOBAL MODIFICATIONS

1. As it is currently presented, the general approach of the BMP is to collect and analyze samples for the purpose of testing the hypothesis that chemical concentrations analyzed in organisms are not statistically different from concentrations analyzed in organisms exposed to reference sediments. EPA disagrees with this approach, and believes that the goal of the biota monitoring should be to document the trends in PCB contamination in the areas of remediated sediments, unremediated sediments and the reference area. The trends in the PCB concentration, availability and uptake, as well as the general recovery of the biotic community, will all be considered as factors for evaluating the effectiveness of the Operable Unit 2 (OU2) remedy. Therefore, the BMP is modified by deleting all text and statistical calculations referring to hypothesis testing. Please note, however, that EPA considers the number and locations of samples presented in the BMP to be appropriate for the modified goal described above.

2. The BMP indicates that resident benthic organisms (such as fiddler crabs) will not be collected and analyzed, since re-establishment of a permanent benthic community will likely take several years and that animals present in the first years following construction may be transient opportunistic species that would not be representative of long-term conditions. Please note that the Agency's Biological and Technical Assistance Group (BTAG) visited the ECMA in July 1995 and observed that fiddler crabs were in fact beginning to re-colonize the remediated areas. Furthermore, representatives of the Respondents's Operable Unit 2 wetland restoration group were present at this site visit and confirmed the presence of fiddler crabs in the remediated areas.

   EPA believes that both fiddler crab field tissue collection and the clam laboratory bioassay should be conducted, as they each have distinct advantages. Data collected for the fiddler crab will provide an assessment of bioaccumulation by a representative benthic macroinvertebrate species under field conditions. In conjunction with these data, the bioassay using the clam should provide data regarding uptake and bioaccumulation that can be compared to known, specific sediment levels due to the laboratory controlled exposure. The clam bioassay will also serve to provide useful information for the monitoring period in the event that adequate crabs cannot be collected. Finally, performing both the crab and clam studies should provide data regarding benthic organisms with different exposure routes (i.e., sessile filter feeder versus mobile opportunistic gleaner).

Based on the above rationale, the BMP is modified to include fiddler crab field tissue collection and analysis. The methods for sample collection and analysis will be identical to that performed during the OU2 remedial investigation (RI) and which is specified in Section 3 of the May 1991 OU2 RI Report. Three composite whole body (soft tissue) crab samples will be taken at each sampling area.

II. SPECIFIC MODIFICATIONS

1. Subsection 2.2 (Sampling and Analysis): The last paragraph of this subsection discusses inorganic analyses performed during the RI, and attempts to justify the exclusion of metals sampling in the BMP. Since, at this time, EPA has not requested that the biota plan include metals analyses, the last two sentences of this paragraph are superfluous and are hereby deleted.

2. Subsection 3.1 (Approach): The relevance and appropriateness of the comparison of site PCB levels to national or even regional levels is questionable and potentially misleading. Therefore, the fourth and seventh (last) sentences of the second paragraph of this subsection (Page 10) are deleted.

3. Subsection 3.2.1 (Fish Collection): Table 3-1 specifies that salinity of surface water will be determined as a field measurement. Therefore, the phrase "and salinity" is inserted after the phrase (micromhos per centimeter)" in the third paragraph on Page 11. In addition, turbidity is added as a parameter that will be tested in surface water. The method of analysis is to be determined by the Respondents' consultant (and can be as simple as using a Secchi disk). However, should laboratory analysis be chosen, then the sampling and analytical procedures will comply with all applicable EPA and NJDEP protocols.

   Please note that the following paragraph is to be inserted after the third paragraph on Page 11:

   In addition, the tide stage will be noted during all sampling events. Samples will not be collected immediately following storm events, since storms may produce anomalous water quality parameter readings and may also affect the distribution of biota.

A composite of mixed specimen sizes (i.e., ages) is proposed on Page 11 for the mummichog sampling when adequate tissue is not available for sampling the two age groups separately. This compositing of the age groups should not be conducted. The mixing of the young of the year and the older mummichogs may introduce considerable variability into the results, and may make the data unsuitable for use in comparing uptake trends to other areas or times. Therefore, the last sentence on Page 11 is modified as follows:

Should there be inadequate tissue for two samples from a location, one sample (representing one age group) will be collected. If there is inadequate tissue for one sample that represents one age group, then a sample will not be collected.

4. Table 3-1: The following modifications are made to Table 3-1:

   A. The holding times for Fish Tissue (PCBs and Lipid) are revised to 3 months;

   B. Extraction of PCBs for Sediment is to occur within 10 days;

   C. Preservation and holding times for Total Organic Carbon shall be in accordance with the May 1992 version of the NJDEP Field Sampling Procedures Manual (FSPM). The FSPM specifies the following for preservation: cool to 4 degrees Celsius, dark, hydrochloric or sulphuric acid to pH<2 if analyses can't be done within 2 hours. Holding times are specified in the FSPM as 2 hours unpreserved and 28 days preserved.

   D. All holding times begins at time of sample collection.

5. Subsection 4.2 (Sediment Collection Methods): The first sentence of the last paragraph on Page 16 is revised by deleting the phrase "as necessary". In addition, the following sentence is added to the first full paragraph on Page 17:

   Analyte free water shall meet the requirements of the October 1989 EPA Region II CERCLA Quality Assurance Manual.

   Furthermore, the second sentence of the second paragraph on Page 17 is revised by deleting the word "general".

6. Subsection 5.1.1 (Selection of Sampling Stations): The phrase "(6 samples from each area)" is inserted after the phrase "of the ECMA" in the last sentence of the second paragraph of this subsection (Page 20).

7. Subsection 5.1.2 (Sampling Methods): The third sentence of the third paragraph of this subsection states that samples will be collected within the upper six inches of sediment "to approximate the remedial action for the marsh". This statement is inaccurate, as excavation during the remedial action generally exceeded depths of 6 inches (and at time approached several feet). The third sentence is therefore modified by deleting the phrase "to approximate the remedial action for the marsh".

8. Subsection 5.1.4 (Data Analysis): This subsection indicates that data comparison will also occur between the reference area and the remediated versus non-remediated areas. For the purposes of the BMP, it is more appropriate to evaluate the data in terms of the range of PCB concentrations detected in the sediment samples (for example, <1 ppm and 1-5 ppm) from all of the sampled areas. This may allow some interpretation of potential differences in the availability of various residual PCB levels. Therefore, the last two sentences of this subsection are revised as follows:

Data analysis will also include an attempt to interpret potential differences in the availability of various residual PCB levels. The results of body burden will be compared to residual sediment ranges of <1 ppm, 1-5 ppm and, if found, >5 ppm. Data will be presented and evaluated in an annual report, as described in Section 7.0

9. Section 7.2 (Reporting): The first bullet on Page 26 is revised as follows:

- **A description of sampling, laboratory and computational methods.**

In addition, the following is added as a concluding sentence on Page 27:

The annual report shall be submitted to EPA within 60 calendar days of completing field activities.

AUG 7 2002

Mr. Stephen T. Joyce
Manager, Closed Sites
SCA Services, Inc.
c/o Waste Management, Inc.
4 Liberty Lane West
Hampton, NH 03842

ATTN: Carl Januszkiewicz

RE: Biota Monitoring Plan
January 2002
(Extended Monitoring)
Kin-Buc Landfill Superfund Site

Dear Mr. Joyce:

The U.S. Environmental Protection Agency has reviewed the document captioned above, and hereby offers an interim approval to the following scope revisions contained in the said report:

1. These monitoring elements can be eliminated,

   a. the fish community survey,
   b. the benthic macroinvertebrate survey, and
   c. the *Macoma* clam laboratory bioaccumulation study.

2. The PRPs indicated that the *Mummichog* tissue residue study sampling in the reference zone could be reduced down to two areas and still be representative of the reference creek system. Please submit to EPA an adequate rationale behind this conclusion, and EPA will attempt to approve this revision prior to the initiation of the upcoming sampling.

3. The fiddler crab analysis will be retained, using the present sampling locations, in addition to the proposed additional samples to be collected in the Edmonds Creek Marsh Area.

The proposed reduction in Edmonds Creek and the reference creek of the number of 'zones' to be monitored, the scope of the monitoring within each zone, and the frequency of the monitoring will be addressed under separate correspondence. EPA is providing this interim approval so that the PRPs can still collect data during this year's sampling season.

Should you have any questions, please contact Grisell V. Diaz-Cotto, of my staff, at 212-637-4430.

Sincerely,

Carole Petersen, Chief
New Jersey Remediation Branch

cc: Ian Curtis, NJDEP
Robert Morano, Transtech